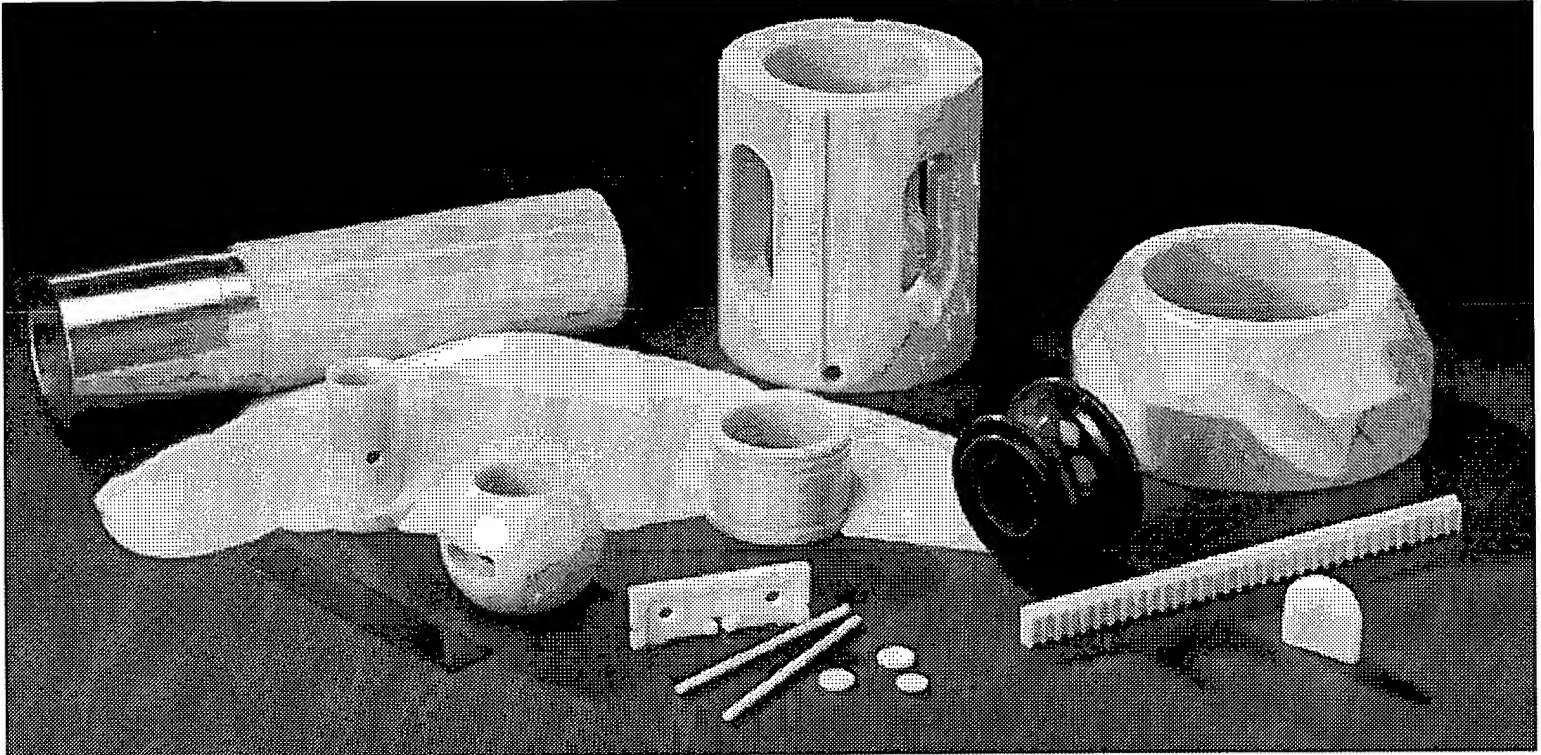


| L Number | Hits  | Search Text  | DB  | Time stamp          |
|----------|-------|--|---|---------------------|
| 2        | 17443 | (bioinert or biocompatible) and (blade scalpel drill bit knife cutter saw needle dissector pin screw tool instrument)  | USPAT;<br>US-PGPUB                                      | 2003/07/10<br>10:11 |
| 3        | 2938  | ((bioinert or biocompatible) and (blade scalpel drill bit knife cutter saw needle dissector pin screw tool instrument)) and (bioinert or biocompatible) same (blade scalpel drill bit knife cutter saw needle dissector pin screw tool instrument)   | USPAT;<br>US-PGPUB                                      | 2003/07/10<br>10:01 |
| 4        | 1155  | ((((bioinert or biocompatible) and (blade scalpel drill bit knife cutter saw needle dissector pin screw tool instrument)) and (bioinert or biocompatible) same (blade scalpel drill bit knife cutter saw needle dissector pin screw tool instrument)) and (bioinert or biocompatible) with (blade scalpel drill bit knife cutter saw needle dissector pin screw tool instrument)) or (ceramic near (ytzp or ztpa)) | USPAT;<br>US-PGPUB                                      | 2003/07/10<br>10:03 |
| 7        | 28481 | (technical near ceramic) or (ceramic same ((aluminum adj oxide) or (zirconium near oxide) or (silicon near nitride))) or (ceramic near (ytzp or ztpa))   | USPAT;<br>US-PGPUB;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | 2003/07/10<br>10:28 |
| 9        | 2637  | (blade or scalpel or drill or bit or knife or cutter or saw or needle or dissector or pin or screw or tool or instrument or scissors or saw or drill or bit or bushing or templet) same ((technical near ceramic) or (ceramic same ((aluminum adj oxide) or (zirconium near oxide) or (silicon near nitride))) or (ceramic near (ytzp or ztpa)))   | USPAT;<br>US-PGPUB;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | 2003/07/10<br>10:35 |
| 11       | 2206  | (blade or scalpel or drill or bit or knife or cutter or saw or needle or dissector or pin or screw or tool or instrument or scissors or saw or drill or bit or bushing or templet) same ((technical near ceramic) or (ceramic with ((aluminum adj oxide) or (zirconium near oxide) or (silicon near nitride))) or (ceramic near (ytzp or ztpa)))   | USPAT;<br>US-PGPUB;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | 2003/07/10<br>10:40 |
| 12       | 1229  | (blade or scalpel or drill or bit or knife or cutter or saw or needle or dissector or pin or screw or tool or instrument or scissors or saw or drill or bit or bushing or templet) with ((technical near ceramic) or (ceramic with ((aluminum adj oxide) or (zirconium near oxide) or (silicon near nitride))) or (ceramic near (ytzp or ztpa)))   | USPAT;<br>US-PGPUB;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | 2003/07/10<br>10:45 |
| 13       | 1213  | (blade or scalpel or drill or bit or knife or cutter or saw or needle or dissector or pin or screw or tool or instrument or scissors or saw or drill or bit or bushing or templet) with ((technical near ceramic) or (ceramic with ((aluminum adj oxide) or (zirconium adj oxide) or (silicon adj nitride))) or (ceramic near (ytzp or ztpa)))   | USPAT;<br>US-PGPUB;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | 2003/07/10<br>10:48 |
| 14       | 9     | (blade or scalpel or drill or bit or knife or cutter or saw or needle or dissector or pin or screw or tool or instrument or scissors or saw or drill or bit) with (technical near ceramic)   | USPAT;<br>US-PGPUB;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | 2003/07/10<br>11:02 |
| 15       | 31    | (blade or scalpel or drill or bit or knife or cutter or saw or needle or dissector or pin or screw or tool or instrument or scissors or saw or drill or bit) same (technical near ceramic)   | USPAT;<br>US-PGPUB;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | 2003/07/10<br>10:54 |

|    |      |   |   |                     |
|----|------|---|---|---------------------|
| 16 | 22   | ((blade or scalpel or drill or bit or knife or cutter or saw or needle or dissector or pin or screw or tool or instrument or scissors or saw or drill or bit) same (technical near ceramic) ) not ((blade or scalpel or drill or bit or knife or cutter or saw or needle or dissector or pin or screw or tool or instrument or scissors or saw or drill or bit) with (technical near ceramic) ) | USPAT;<br>US-PGPUB;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | 2003/07/10<br>10:55 |
| 17 | 1207 | (blade or scalpel or drill or bit or knife or cutter or saw or needle or dissector or pin or screw or tool or instrument or scissors or saw or drill or bit) same (ceramic same (aluminum adj oxide))   | USPAT;<br>US-PGPUB;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | 2003/07/10<br>11:04 |
| 18 | 970  | (blade or scalpel or drill or bit or knife or cutter or saw or needle or dissector or pin or screw or tool or instrument or scissors or saw or drill or bit) same (ceramic with (aluminum adj oxide))   | USPAT;<br>US-PGPUB;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | 2003/07/10<br>11:06 |
| 19 | 380  | (blade or scalpel or drill or bit or knife or cutter or saw or needle or dissector or tool or instrument or scissors or drill or bit) with (ceramic with (aluminum adj oxide))  | USPAT;<br>US-PGPUB;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | 2003/07/10<br>11:35 |
| 20 | 119  | (blade or scalpel or drill or bit or knife or cutter or saw or needle or dissector or tool or instrument or scissors or drill or bit) with (ceramic with (zirconium adj oxide))   | USPAT;<br>US-PGPUB;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | 2003/07/10<br>11:38 |
| 21 | 627  | (blade or scalpel or drill or bit or knife or cutter or saw or needle or dissector or tool or instrument or scissors or drill or bit) with (ceramic with (silicon adj nitride))   | USPAT;<br>US-PGPUB;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | 2003/07/10<br>11:42 |
| 22 | 0    | (blade or scalpel or drill or bit or knife or cutter or saw or needle or dissector or tool or instrument or scissors or drill or bit) with (ceramic near (ytzp or ztpa))  | USPAT;<br>US-PGPUB;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | 2003/07/10<br>11:43 |
| 23 | 9    | (blade or scalpel or drill or bit or knife or cutter or saw or needle or dissector or tool or instrument or scissors or drill or bit) and (ceramic with(ytzip or ztpa))   | USPAT;<br>US-PGPUB;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | 2003/07/10<br>11:43 |
| 24 | 9    | (blade or scalpel or drill or bit or knife or cutter or saw or needle or dissector or tool or instrument or scissors or drill or bit) and (ceramic with (ytzip or ztpa))  | USPAT;<br>US-PGPUB;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | 2003/07/10<br>11:47 |
| 25 | 18   | (blade or scalpel or drill or bit or knife or cutter or saw or needle or dissector or tool or instrument or scissors or drill or bit) and (ytzip or ztpa)   | USPAT;<br>US-PGPUB;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | 2003/07/10<br>12:15 |
| 26 | 0    | ("(ytzip or ztpa) adj3 (comprises or composed)").PN.  | USPAT;<br>US-PGPUB                                      | 2003/07/10<br>12:15 |
| 27 | 0    | (ytzip or ztpa) adj3 (comprises or composed)  | USPAT;<br>US-PGPUB                                      | 2003/07/10<br>12:16 |
| 28 | 0    | (ytzip or ztpa) with (comprises or composed)  | USPAT;<br>US-PGPUB                                      | 2003/07/10<br>12:16 |
| 29 | 0    | (ytzip or ztpa) with (comprises or composes)  | USPAT;<br>US-PGPUB                                      | 2003/07/10<br>12:16 |
| 30 | 31   | (ytzip or ztpa)   | USPAT;<br>US-PGPUB                                      | 2003/07/10<br>13:12 |
| 31 | 4864 | yttria near partially stabilized near zirconia  | USPAT;<br>US-PGPUB                                      | 2003/07/10<br>13:12 |
| 32 | 4865 | yttria near partially newr stabilized near zirconia   | USPAT;<br>US-PGPUB                                      | 2003/07/10<br>13:13 |

|     |      |  |                    |                     |
|-----|------|--|--------------------|---------------------|
| 33  | 106  | yttria near partially near stabilized near zirconia  | USPAT;<br>US-PGPUB | 2003/07/10<br>13:27 |
| 34  | 1230 | partially near stabilized near zirconia  | USPAT;<br>US-PGPUB | 2003/07/10<br>13:25 |
| 35  | 1976 | yttria near zirconia   | USPAT;<br>US-PGPUB | 2003/07/10<br>13:25 |
| 36  | 1240 | (yttria near zirconia ) and (blade or scalpel or drill or bit or knife or cutter o saw or needle or dissector or scissors)   | USPAT;<br>US-PGPUB | 2003/07/10<br>13:28 |
| 37  | 575  | yttria with partially with stabilized with zirconia  | USPAT;<br>US-PGPUB | 2003/07/10<br>13:27 |
| 38  | 380  | (yttria with partially with stabilized with zirconia ) and (blade or scalpel or drill or bit or knife or cutter o saw or needle or dissector or scissors)  | USPAT;<br>US-PGPUB | 2003/07/10<br>13:30 |
| 39  | 299  | ((yttria with partially with stabilized with zirconia ) and (blade or scalpel or drill or bit or knife or cutter o saw or needle or dissector or scissors)) not (yttria near partially near stabilized near zirconia ) | USPAT;<br>US-PGPUB | 2003/07/10<br>13:29 |
| 40  | 253  | (yttria with partially with stabilized with zirconia ) and (blade or scalpel or drill or bit or knife or cutter or saw or needle or dissector or scissors)   | USPAT;<br>US-PGPUB | 2003/07/10<br>13:53 |
| 41  | 11   | coorstek.AS.   | USPAT;<br>US-PGPUB | 2003/07/10<br>14:42 |
| 42  | 845  | al2o3  | USPAT;<br>US-PGPUB | 2003/07/10<br>14:43 |
| 43  | 139  | y2o3   | USPAT;<br>US-PGPUB | 2003/07/10<br>15:02 |
| 44  | 1    | ("6160161").PN.  | USPAT;<br>US-PGPUB | 2003/07/10<br>15:03 |
| 45  | 1    | ("5830816").PN.  | USPAT;<br>US-PGPUB | 2003/07/10<br>15:06 |
| 128 | 4482 | ceramic with (scissors or blade or drill or bit or knife)  | USPAT;<br>US-PGPUB | 2003/07/10<br>16:03 |
| 129 | 4211 | ceramic with (scissors or blade or drill or knife)   | USPAT;<br>US-PGPUB | 2003/07/10<br>16:04 |

## ZIRCONIA MATERIALS



CoorsTek is recognized worldwide for over 80 years of experience in the manufacturing of technical ceramics. CoorsTek's ceramic materials have proven to be unparalleled in quality. CoorsTek's zirconia materials, TTZ (Transformation Toughened Zirconia), YTZP (Yttria-partially Stabilized Zirconia), ZTA (Zirconia Toughened Alumina), and AZ-25 (Alumina-Zirconia Composite) provide unique characteristics to ensure dependable and economic solutions for our customers worldwide. CoorsTek has recently developed both a CeTZP (Ceria Stabilized) and a CeATZ (Alumina Toughened Zirconia) to provide additional strength to existing materials. CoorsTek is continually developing new materials to meet the needs of the ever changing market place.

### **Zirconia Material Advantages:**

- **Excellent Strength and High Fracture Toughness:**  
Zirconia is able to absorb the energy of impact that causes ceramic materials to shatter.
- **Surface Finish:** Zirconia is a highly polishable material that can achieve a 2-4 microinch Ra.
- **Excellent Thermal Stability:** Zirconia can tolerate thermal gradients better than most other high temperature materials. The coefficient of thermal expansion is similar to steel, allowing for stable performance in metal and ceramic component and assembly designs.
- **Wear Resistant:** Zirconia outperforms conventional components in demanding corrosive, abrasive, and erosive environments.
- **NSF and USP Class VI Certified:** CoorsTek's Zirconia material is certified for various medical and implant applications (Data available upon request).

### **Typical Applications Include:**

- Fluid handling components
- Medical equipment components
- Pumps
- Seals
- Valves
- Bearings & Bushings
- Knife blades
- Electro-surgical devices
- Implant units
- Buttons
- Mechanical applications